Case fatality rate and viral aetiologies of acute respiratory tract infections in people living with HIV in Africa: The VARIAFRICA-HIV systematic review and meta-analysis

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Supplementary Table 1 : **PRISMA checklist**

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	1
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	2-3
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	4
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	4-5
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	5
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	5
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	
Search 8 Present full electronic search strategy for at I repeated.		Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	5-6
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	6
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	6-7

Data items 11		List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	6-7	
Risk of bias in individual 12 studies		Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.		
Summary measures 13		State the principal summary measures (e.g., risk ratio, difference in means).	7	
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I²) for each meta-analysis.	7	
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	7	
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.		
RESULTS				
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	8	
Study characteristics 18		For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.		
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	8	
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.		
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	9-10	
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	9-10	
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	9-10	
DISCUSSION	<u> </u>			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	11	
Limitations 25 Discuss limitations at study and outcome level (e.g., ri identified research, reporting bias).		Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).	13	
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	13-14	

FUNDING			
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	14

Supplementary Table 2 : Search strategy in PubMed

Search	Search terms						
#1	"HIV" OR AIDS OR "Human Immunodeficiency Virus" OR "acquired						
	immunodeficiency virus"						
#2	"lower respiratory tract infect*" OR "LRTI" OR "acute lower respiratory infect*"						
	OR "ALRI" OR "pneumonia" OR "community acquired pneumonia" OR						
	"bronchiolitis" OR "severe acute respiratory infect*" OR "severe acute respiratory						
	illness" OR "ILI" OR "Influenza Like Illness" OR "whooping cough" OR						
	"bronchopneumonia" OR "pleurisy" OR "pleuropneumonia" OR "bronchitis" OR						
	"respiratory infect*" OR "upper respiratory tract infect*" OR "upper respiratory						
	infect*"						
#3	Africa* OR Algeria OR Angola OR Benin OR Botswana OR "Burkina Faso" OR						
	Burundi OR Cameroon OR "Canary Islands" OR "Cape Verde" OR "Central African						
	Republic" OR Chad OR Comoros OR Congo OR "Democratic Republic of Congo"						
	OR Djibouti OR Egypt OR "Equatorial Guinea" OR Eritrea OR Ethiopia OR Gabon						
	OR Gambia OR Ghana OR Guinea OR "Guinea Bissau" OR "Ivory Coast" OR "Cote						
	Ivoire" OR Jamahiriya OR Kenya OR Lesotho OR Liberia OR Libya OR						
	Madagascar OR Malawi OR Mali OR Mauritania OR Mauritius OR Mayotte OR						
	Morocco OR Mozambique OR Namibia OR Niger OR Nigeria OR Principe OR						
	Reunion OR Rwanda OR "Sao Tome" OR Senegal OR Seychelles OR "Sierra						
	Leone" OR Somalia OR "South Africa" OR "South Sudan" OR "St Helena" OR						
	Sudan OR Swaziland OR Tanzania OR Togo OR Tunisia OR Uganda OR "Western						
	Sahara" OR Zaire OR Zambia OR Zimbabwe OR "Central Africa" OR "Central						
	African" OR "West Africa" OR "West African" OR "Western Africa" OR "Western						
	African" OR "East Africa" OR "East African" OR "Eastern Africa" OR "Eastern						
	African" OR "North Africa" OR "North African" OR "Northern Africa" OR						
	"Northern African" OR "South African" OR "Southern Africa" OR "Southern						
	African" OR "sub Saharan Africa" OR "sub Saharan African" OR "sub Saharan						
	Africa" OR "sub Saharan African"						
#4	#1 OR #2 OR #3						
#5	("2000/01/01"[Date - Publication] : "3000"[Date - Publication])						

${\it Supplementary Table 3:} \textbf{\it Characteristics of included studies}$

Characteristics	N = 36					
Publication date	2000-2017					
Period of participants recruitment	1994-2016					
%Males	38-68 (n = 26 studies)					
Mean/median age, years	3 months – 40 years (n = 20 studies)					
Design						
- Cross sectional	27					
- Clinical trial	4					
- Cohort	3					
- Case control	2					
Setting						
- Urban	4					
- Semi-Urban	10					
- Rural	3					
- Not reported	9					
Sampling						
- Consecutive	32					
- Random	3					
- Systematic	1					
Timing of data collection						
- Prospective	30					
- Retrospective	6					
Clinical presentation						
- Severe form	33					
- Severe and benign forms	3					
Age groups						
- Children ≤ 5 years	21					
- All age groups	5					
- Adults (> 15 years)	5					
- Children (≤15 years)	4					
- People aged > 5 years	2					

Supplementary Table 4: Individual characteristics of included studies

Study	Year	Study Design	Sampling method	Period of data collection	Timing of data collection	Clinical Presentation	Origin of laboratory sample	Mean or Median Age	%Male	Country	Population	Risk of bias
Annamalay, 2016	2016	Cross sectional	Consecutive	Sep/2010-Apr/2013	Prospective study	Severe RTI	Nasal; Pharyngeal	20.7 months	51.6	Mozambique	Children < 15 y	Moderate
Annamalay, 2016	2016	Cross sectional	Consecutive	Jul/2011-Nov/2012	Prospective study	Severe RTI	Nasal; Pharyngeal	7.1 months	67.6	Mozambique	Children < 5 y	Moderate
Cohen, 2015	2015	Cross sectional	Consecutive	2009–2014	Prospective study	Severe RTI	Nasal; Pharyngeal; Throat	NR		South Africa	All ages	Moderate
Cohen, 2015	2015	Cross sectional	Consecutive	Feb/2009-Dec/2013	Prospective study	Severe RTI	Nasal; Pharyngeal; Throat	NR		South Africa	All ages	Moderate
Cohen, 2015	2015	Cross sectional	Systematic	Feb/2009-Dec/2012	Prospective study	Severe RTI	Nasal; Pharyngeal	NR	57.5	South Africa	Children < 5 y	Moderate
Cohen, 2015	2015	Cross sectional	Consecutive	Feb/2009-Dec/2012	Prospective study	Severe RTI	Nasal; Pharyngeal; Throat	NR	39.0	South Africa	People > 5 y	Moderate
Cohen, 2016	2016	Cross sectional	Consecutive	Jan/2010–Dec/2013	Prospective study	Severe RTI	Nasal; Pharyngeal	NR		South Africa	Children < 5 y	Moderate
Feikin, 2012	2012	Cross sectional	Consecutive	May/2007–Feb2010	Prospective study	Severe RTI	Nasal; Oral; Pharyngeal	12 years	43.0	Kenya	People > 5 y	Moderate
Graham, 2011	2011	Cross sectional	Consecutive	Jul/2005-Nov/2006	Prospective study	Severe RTI	NA	11 months	54.0	Malawi	Children < 15 y	Moderate
Hellferscee, 2017	2017	Cross sectional	Consecutive	Jan/2009–Dec/2012	Prospective study	Severe RTI	Nasal; Oral; Pharyngeal	NR	48.8	South Africa	All ages	Moderate
Но, 2017	2017	Case control	Consecutive	Apr/2013–Mar/2015	Prospective study	Begnin RTI; Severe RTI	Nasal; Oral; Pharyngeal	33.5 years	51.3	Malawi	Adults	Moderate
Hooli, 2016	2016	Cross sectional	Consecutive	Oct/2011–Jun/2014	Prospective study	Severe RTI	NA	8.7 months	56.3	Malawi	Children < 5 y	Moderate
Jeena, 2006	2006	Cross sectional	Consecutive	Jan/1999-Aug/2001	Prospective study	Severe RTI	NA	17 months	55.7	South Africa, Zambia	Children < 5 y	Moderate
Jeena, 2007	2007	Cross sectional	Consecutive	NR	Prospective study	Severe RTI	NA	17 months	56.0	South Africa	Children < 5 y	Moderate
Kelly, 2015	2015	Cross sectional	Consecutive	Apr/2012-Oct/2013	Prospective study	Severe RTI	NA	6 months	55.0	Botswana	Children < 5 y	Moderate
Lazzerini, 2016	2016	Cross sectional	Consecutive	2001–2012	Retrospective study	Severe RTI	NA	NR	54.0	Malawi	Children < 5 y	Moderate

Madhi, 2000	2000	Cross sectional	Consecutive	Mar/1997–Feb/1998	Prospective study	Severe RTI	NA	8.5 months	57.8	South Africa	Children < 5 y	Moderate
Madhi, 2000	2000	Cross sectional	Consecutive	Mar/1997–Mar/1998	Prospective study	Severe RTI	Nasal	8.5 months	57.2	South Africa	Children < 5 y	Moderate
Madhi, 2006	2006	Cross sectional	Random	March 1998–October 2000	Prospective study	Severe RTI	Nasal	NR		South Africa	Children < 5 y	Low
Madhi, 2007	2007	Cohort	Consecutive	Jan/2000-Dec/2002	Retrospective study	Severe RTI	Nasal; Pharyngeal	NR		South Africa	Adults	Low
Majozi, 2017	2017	Cohort	Consecutive	Dec/2010-May/2015	Retrospective study	Severe RTI	NR	NR	58.9	South Africa	Children < 15 y	Low
Moyes, 2013	2013	Cross sectional	Consecutive	Jan/2010-Dec/2011	Prospective study	Severe RTI	Nasal; Pharyngeal	NR		South Africa	Children < 5 y	Low
Moyes, 2017	2017	Cross sectional	Consecutive	Feb/2009-Dec/2013	Prospective study	Severe RTI	Nasal; Oral; Pharyngeal	NR	38.0	South Africa	Adults	Low
Ngari, 2017	2017	Cohort	Consecutive	Jan/2007–Dec/2012	Prospective study	Severe RTI	NA	8.9 months		Kenya	Children < 5 y	Low
Nunes, 2014	2014	Cross sectional	Random	February 2000 to 31st January 2002	Retrospective study	Severe RTI	Nasal	10 months	57.3	South Africa	Children < 5 y	Low
Nyawanda, 2016	2016	Cross sectional	Consecutive	Sep/2009-Aug/2013	Prospective study	Severe RTI	Nasal; Oral; Pharyngeal	1.4 years	54.0	Kenya	Children < 5 y	Low
Peterson, 2016	2016	Cross sectional	Consecutive	Jan/2011-Dec/2014	Prospective study	Severe RTI	Nasal; Pharyngeal	NR		Malawi	Children < 15 y	Low
Scott, 2000	2000	Cohort	Consecutive	Mar/1994–May/1996	Prospective study	Severe RTI	NA	NR	63.0	Kenya	Adults	Low
Sigaúque, 2009	2009	Cross sectional	Consecutive	Mar/2004–Mar/2006	Prospective study	Severe RTI	NA	8 months	58.0	Mozambique	Children < 5 y	Low
Srinivasan, 2012	2012	Cross sectional	Random	NR	Prospective study	Severe RTI	NA	18 months	56.2	Uganda	Children < 5 y	Low
Sutcliffe, 2016	2016	Case control	Consecutive	NR	Prospective study	Severe RTI	NA	NR	52.8	Zambia	Children < 5 y	Low
Tempia, 2017	2017	Cross sectional	Consecutive	May 2012–April 2016	Prospective study	Begnin RTI; Severe RTI	Nasal; Oral; Pharyngeal	NR		South Africa	All ages	Low
Venter, 2011	2011	Cross sectional	Consecutive	Jan/2006-Dec/2007	Retrospective study	Begnin RTI; Severe RTI	Nasal; Pharyngeal	3 months	52.8	South Africa	Children < 5 y	Low
Yone, 2012	2012	Cross sectional	Consecutive	Jan/2008-May/2012	Retrospective study	Severe RTI	NA	40 years	48.1	Cameroon	Adults	Low
Zar, 2001	2001	Cross sectional	Consecutive	Jan/1998–Dec/1998	Prospective study	Severe RTI	NA	6 months	57.2	South Africa	Children < 5 y	Low

Zash, 2016	2016	Cross sectional	Consecutive	NR	Prospective	Severe RTI	Nasal	NR	Botswana	Children <	Low
					study					5 y	

$\textit{Supplementary Table 5:} \textbf{\textit{Publication bias and Trim-and-Fill adjusted analysis}$

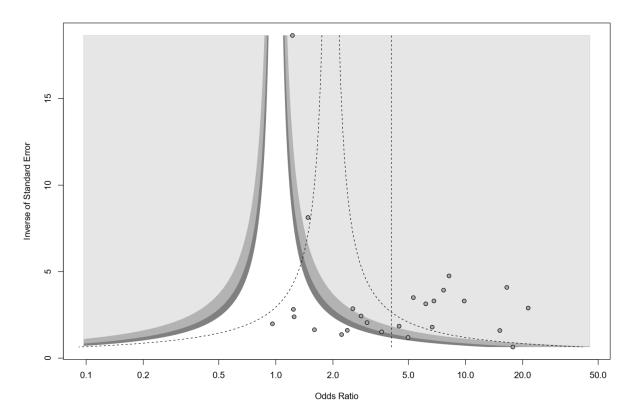
	Publicatio	n bias	Trim-and-Fill adjus	<u> </u>	
	N studies	Harbord test	Odds ratio (95% confidence interval)	N studies	I ² , %
Case fatality rate	25	0.0009	1.28 (0.84-1.95)	43	95.6 (94.7-96.3)
Human Parainfluenza Virus	10	0.014	0.52 (0.31-0.87)	17	86.4 (79.7-90.9)
Human Metapneumovirus	12	0.029	0.46 (0.29-0.73)	19	69.2 (50.6-80.8)
Rhinovirus	9	0.329	Not necessary		
Enterovirus	5	0.384	Not necessary		
Human Bocavirus	4	0.414	Not necessary		
Influenza virus	13	0.477	Not necessary		
Human Adenovirus	10	0.663	Not necessary		
Human Coronavirus	4	0.870	Not necessary		
Respiratory Syncytial Virus	11	0.914	Not necessary		

Supplementary Table 6: Subgroup analysis for comparison of viral aetiologies of acute respiratory tract infections in Africa between HIV positive and HIV negative individuals

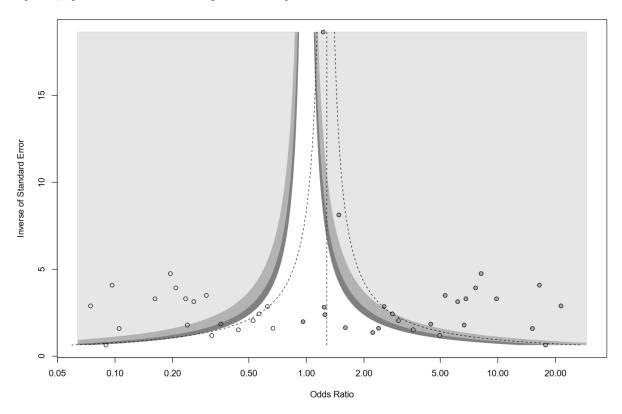
	Odds ratio (95%	N studies	I ² (%)	р
	confidence interval)	1 Studies	1 (70)	difference
Rhinovirus				
Age group				
- Children	0.46 (0.25-0.83)	2	0.0	0.205
- Adults	0.26 (0.14-0.50)	1	_	
Regions				
- Eastern	0.66 (0.36-1.22)	2	0.0	0.890
- Southern	0.70 (0.48-1.02)	7	71.3	
Human Adenovirus				
Age group				
- Children	0.35 (0.17-0.73)	2	54.9	0.483
- Adults	0.71 (0.11-4.50)	2	86.0	
Age group				
- ≤ 5 years	1.00 (0.61-1.64)	4	7.4	0.0013
- > 5 years	3.91 (2.01-7.61)	1	-	
Regions				
- Eastern	1.10 (0.25-4.84)	3	87.2	0.531
- Southern	0.66 (0.37-1.18)	7	76.9	
Respiratory syncytial virus				
Age group				
- Children	0.30 (0.01-7.63)	2	97.0	0.780
- Adults	0.51 (0.08-3.27)	2	98.2	
Age group				
$- \le 5 \text{ years}$	0.62 (0.31-1.26)	5	81.6	0.0002
- > 5 years	4.3 (2.09-8.87)	1	-	
Regions				
- Eastern	1.50 (0.58-3.89)	4	79.1	0.039
- Southern	0.40 (0.18-0.90)	7	95.0	
Human Bocavirus				
Regions				
- Eastern	1.13 (0.05-26.03)	2	84.6	0.796
- Southern	0.75 (0.49-1.13)	2		
Human Coronavirus				
Regions				
- Eastern	3.90 (0.63-24.16)	2	30.0	0.241
- Southern	0.81 (0.13-5.31)	2	93.8	
Human Parainfluenza Virus				
Age group				
- Children	1.60 (0.25-1.30)	2	84.9	0.554
- Adults	0.89 (0.51-1.56)	2	0.0	
Age group				
$- \le 5 \text{ years}$	1.38 (0.73-2.62)	4	0.0	0.030
- > 5 years	4.05 (1.95-8.42)	1	-	
Regions				
- Eastern	4.01 (2.23-7.24)	3	0.0	< 0.0001

- Southern	0.69 (0.50-0.96)	7	34.9	
Influenza Virus				
Age group				
- Children	0.70 (0.36-1.35)	3	39.1	0.238
- Adults	1.39 (0.54-3.59)	3	66.3	
Age group				
- ≤ 5 years	0.45 (0.16-1.29)	3	24.3	0.251
- > 5 years	1.01 (0.41-2.47)	2	93.9	
Regions				
- Eastern	1.39 (0.90-2.15)	5	31.1	0.022
- Southern	0.76 (0.58-0.9966)	8	63.8	
Human Metapneumovirus				
Age group				
- Children	0.96 (0.32-2.88)	2	0.0	0.384
- Adults	0.52 (0.23-1.17)	2	10.5	
Age group				
$- \le 5 \text{ years}$	0.46 (0.35-0.60)	6	0.0	< 0.0001
- > 5 years	3.00 (1.27-7.04)	1	-	
Regions				
- Eastern	1.50 (0.53-4.22)	3	46.8	0.037
- Southern	0.48 (0.38-0.61)	9	4.3	
Enterovirus				
Age group				
- Children	1.26 (0.37-4.22)	2	0.0	0.883
- Adults	1.51 (0.18-12.83)	1	-	
Regions				
- Eastern	0.76 (0.32-1.78)	4	49.5	0.272
- Southern	2.14 (0.42-11.01)	1	-	

Supplementary Figure 1: Funnel plot for publication bias in comparison of case fatality between HIV-positive and HIV-negative populations with acute respiratory tract infections in Africa



Supplementary Figure 2: Funnel plot for publication bias in comparison of case fatality between HIV-positive and HIV-negative populations with acute respiratory tract infections in Africa, after Trim-and-Fill adjusted analysis



Supplementary Figure 3: Subgroup-analysis of case fatality between HIV-positive and HIV-negative populations with acute respiratory tract infections in Africa: children aged ≤ 5 years versus people aged > 5 years

Study or	HIV I	Positive	HIV N	legative		Odds Ratio	Odds Ratio
Subgroup	Events	Total	Events	Total	Weight	MH, Random, 95% CI	MH, Random, 95% CI
People > 5 y							
Cohen, 2015 [2]	352	4642	87	1660	7.1%	1.48 [1.17; 1.89]	<u>+</u>
Total (95% CI)	352	4642	87	1660	7.1%	1.48 [1.17; 1.89]	•
Heterogeneity: not a	applicable						
Children < 5 y							
Cohen, 2015 [3]	47	695	46	5240	7.0%	8.19 [5.41; 12.40]	
Cohen, 2016	27	207	44	2281	6.9%	7.63 [4.61; 12.61]	
Hooli, 2016	18	152	50	1999	6.8%	5.24 [2.97; 9.23]	-
Jeena, 2006	4	106	6	358	5.3%	2.30 [0.64; 8.31]	
Jeena, 2007	3	82	2	284	4.2%	5.35 [0.88; 32.60]	 •
Kelly, 2015	2	20	12	217	4.7%	1.90 [0.39; 9.15]	
Lazzerini, 2016	579	9061	1024	19370	7.2%	1.22 [1.10; 1.36]	•
Madhi, 2000 [1]	72	548	13	617	6.7%	7.03 [3.85; 12.84]	+
Madhi, 2000 [2]	59	433	12	497	6.6%	6.38 [3.38; 12.03]	-
Ngari, 2017	17	85	51	2035	6.7%	9.73 [5.34; 17.72]	=
Nunes, 2014	92	517	9	943	6.5%	22.46 [11.22; 44.97]	
Sigaúque, 2009	13	49	3	146	5.2%	17.21 [4.66; 63.63]	<u> </u>
Srinivasan, 2012	7	55	12	256	6.0%	2.97 [1.11; 7.92]	-
Sutcliffe, 2016	82	111	84	582	6.9%	16.76 [10.35; 27.16]	
Zar, 2001	31	151	8	99	6.3%	2.94 [1.29; 6.70]	 :
Total (95% CI)	1053	12272	1376	34924	92.9%	5.83 [2.93; 11.60]	•
Heterogeneity: Tau ²	= 1.6470; C	:hi ² = 357.4	11, df = 14 (I	P < 0.0001); I ² = 96.1%	[94.7%; 97.1%]	
Total (95% CI)	1405	16914	1463	36584	100.0%	5.31 [3.00; 9.38]	•
Prediction interv	al					[0.48; 58.33]	
Heterogeneity: Tau ²	= 1.1647; C	:hi ² = 362.3	39, df = 15 (I	P < 0.0001); I ² = 95.9%	[94.5%; 96.9%]	
Test for subgroup di	fferences: C	hi ² = 13.50	, df = 1 (P =	0.0002)			0.1 0.5 2 10

Supplementary Figure 4: Subgroup-analysis of case fatality between HIV-positive and HIV-negative populations with acute respiratory tract infections in Africa: children (≤ 15 years) versus adults

Study or	HIV P	ositive	HIV Ne	gative		Odds Ratio	Odds Ratio
Subgroup	Events	Total	Events	Total	Weight	MH, Random, 95% CI	MH, Random, 95% CI
Children < 15	у						
Graham, 2011	18	134	4	130	16.5%	4.46 [1.55; 12.89]	
Majozi, 2017	12	65	43	273	26.2%	1.24 [0.62; 2.48]	ii
Total (95% CI)	30	199	47	403	42.7%	2.27 [0.58; 8.98]	
Heterogeneity: Ta	$u^2 = 0.7657$; Chi ² = 4.	.39, df = 1 (F	P = 0.0362	2); $I^2 = 77.29$	%	
Adults							
Madhi, 2007	2	45	0	154	2.9%	17.76 [0.84; 376.84]	-
Moyes, 2017	21	218	5	53	18.0%	0.96 [0.36; 2.58]	-
Scott, 2000	14	117	11	113	22.3%	1.25 [0.55; 2.84]	#
Yone, 2012	9	62	4	44	14.0%	1.60 [0.48; 5.27]	-
Total (95% CI)	46	442	20	364	57.3%	1.34 [0.74; 2.42]	*
Heterogeneity: Ta	$u^2 = 0.0375$; Chi ² = 3.	.31, df = 3 (F	P = 0.3456	6); $I^2 = 9.5\%$	[0%; 86.1%]	
Total (95% CI)	76	641	67	767	100.0%	1.64 [0.96; 2.79]	◆
Prediction inter	rval					[0.43; 6.20]	
Heterogeneity: Ta	u ² = 0.1562	Chi ² = 7	.92, df = 5 (F	P = 0.160	7); I ² = 36.99	• '	
Test for subgroup					,		0.01 0.1 1 10 100

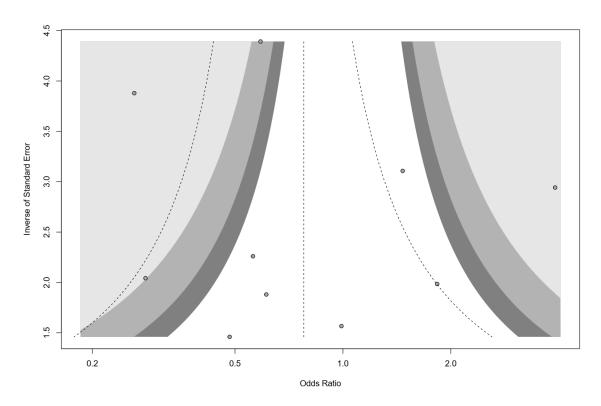
Supplementary Figure 5: Subgroup-analysis of case fatality between HIV-positive and HIV-negative populations with acute respiratory tract infections in Africa: by regions in Africa

Study or	HIV I	Positive	HIV N	legative		Odds Ratio	Odds Ratio
Subgroup	Events	Total	Events	Total	Weight	MH, Random, 95% CI	MH, Random, 95% C
Southern							
Cohen, 2015 [1]	3	78	7	591	3.4%	3.61 [0.99; 13.14]	-
Cohen, 2015 [2]	352	4642	87	1660	4.8%	1.48 [1.16; 1.88]	<u> </u>
Cohen, 2015 [3]	47	695	46	5240	4.7%	8.18 [5.42; 12.36]	—
Cohen, 2015 [4]	22	419	13	620	4.4%	2.55 [1.28; 5.06]	
Cohen, 2016	27	207	44	2281	4.6%	7.66 [4.65; 12.62]	=
Hellferscee, 2017	8	107	5	434	3.7%	6.67 [2.23; 19.93]	—
Jeena, 2006	4	106	6	358	3.5%	2.38 [0.70; 8.08]	-
Jeena, 2007	3	82	2	284	2.9%	4.97 [0.96; 25.70]	- •
Kelly, 2015	2	20	12	217	3.2%	2.22 [0.53; 9.37]	-
Madhi, 2000 [1]	72	548	13	617	4.5%	6.81 [3.76; 12.33]	
Madhi, 2000 [2]	59	433	12	497	4.5%	6.17 [3.30; 11.52]	<u> </u>
Madhi, 2007	2	45	0	154	1.4%	17.76 [0.84; 376.84]	-
Majozi, 2017	12	65	43	273	4.4%	1.24 [0.62; 2.48]	
Moyes, 2017	21	218	5	53	3.9%	0.96 [0.36; 2.58]	-
Nunes, 2014	92	517	9	943	4.4%	21.38 [10.86; 42.11]	-
Zar, 2001	31	151	8	99	4.2%	2.81 [1.26; 6.29]	-
Total (95% CI)	757	8333	312	14321	62.4%	3.98 [2.40; 6.61]	•
Eastern	1Ω	13/	1	130	3 80%	4 46 [1 55: 12 80]	
Graham, 2011	18	134	4	130	3.8%	4.46 [1.55; 12.89]	-
Hooli, 2016	18	152	50	1999	4.5%	5.31 [3.03; 9.30]	⊥ .
Lazzerini, 2016	579	9061	1024	19370	4.9%	1.22 [1.10; 1.36]	!
Ngari, 2017	17	85	51	2035	4.5%	9.84 [5.44; 17.82]	
Scott, 2000	14	117	11	113	4.2%	1.25 [0.55; 2.84]	#
Sigaúque, 2009	13	49	3	146	3.5%	15.16 [4.43; 51.91]	
Srinivasan, 2012	7	55	12	256	4.0%	3.02 [1.16; 7.87]	 _
Sutcliffe, 2016	82	111	84	582	4.6%	16.50 [10.21; 26.65]	: ==
TotaI (95% CI) Heterogeneity: Tau ²	748 = 1.8032; Ch	9764 ni ² = 185.9	1239 6, df = 7 (P	24631 < 0.0001);	34.0% I ² = 96.2% [9	4.80 [1.81; 12.71] 94.3%; 97.5%]	
Central	_	00	,	4.4	0.00/	4.6010.40 5.07	
Yone, 2012	9	62	4	44	3.6%	1.60 [0.48; 5.27]	
Total (95% CI) Heterogeneity: not ap	9 oplicable	62	4	44	3.6%	1.70 [0.49; 5.91]	
rotorogoriony. Hot up							
	1514	18159	1555	38996	100 0%	4.07 [2.64 · 6 27]	•
Fotal (95% CI)	1514 I	18159	1555	38996	100.0%	4.07 [2.64; 6.27] [0.49; 33.79]	<u> </u>

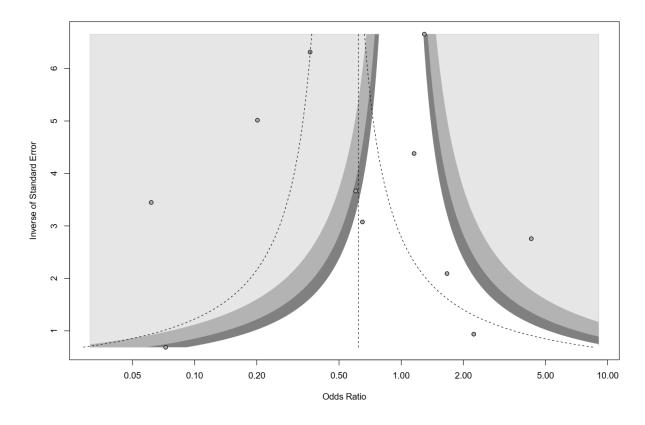
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Subgroup Enterovirus	HIV P Events	Positive Total	HIV N Events	legative Total	Odds Ratio MH, Random, 95% CI	Odds Ratio MH, Random, 95%
Annamalay, 2016 [2]	2	38	6	237	2.44 [0.54; 10.93]	-
Cohen, 2015 [2] Majozi, 2017	8 2	230 338	57 3	635 338	0.38 [0.18; 0.80] 0.71 [0.14; 3.63]	
Moyes, 2017	6	336 49	67	753	1.52 [0.64; 3.60]	
Moyes, 2017	6	228	1	57	1.10 [0.18; 6.65]	_
Zash, 2016	0	18	0	67	3.65 [0.07; 190.16]	
Total (95% CI) Heterogeneity: Tau ² = 0.3	24 3390; Chi ² =	901 9.03, df =	134 5 (P = 0.107	2087 (78); $I^2 = 44.6$	0.97 [0.47; 2.03] 6% [0%; 78.1%]	Ť
Human Adenovirus						
nnamalay, 2016 [1] nnamalay, 2016 [2]	3 7	15 38	28 68	85 237	0.56 [0.16; 2.01] 0.59 [0.25; 1.37]	-
Cohen, 2015 [2]	28	198	125	572	0.60 [0.38; 0.93]	-
eikin, 2012	19	3496	16	11458	3.89 [2.02; 7.50]	-
/ladhi, 2007 /lajozi, 2017	5 22	613 338	27 71	951 338	0.30 [0.12; 0.76] 0.27 [0.16; 0.44]	-
Moyes, 2013	15	49	174	753	1.49 [0.80; 2.78]	-
Noyes, 2017	34	227	5	57	1.70 [0.66; 4.40]	-
/enter, 2011	15	383	5	80	0.58 [0.21; 1.58]	
ash, 2016 otal (95% CI)	4 152	18 5375	15 534	67 14598	1.05 [0.32; 3.49] 0.78 [0.43; 1.42]	•
leterogeneity: Tau ² = 0.7	221; Chi =	54. 15, ar	= 9 (P < 0.00	001);1 = 83	5.4% [70.9%; 90.5%]	
Human Bocavirus Innamalay, 2016 [1]	1	15	20	85	0.33 [0.06; 1.91]	_
nnamalay, 2016 [2]	4	38	6	237	4.65 [1.33; 16.28]	
Nunes, 2014 /enter, 2011	49 24	517 383	125 4	943 80	0.69 [0.49; 0.98] 1.16 [0.41; 3.26]	
Zash, 2016	0	18	0	67	3.65 [0.07; 190.16]	
otal (95% CI) leterogeneity: Tau ² = 0.4	78 4851: Chi ² =	971	155	1412 350): 1 ² = 61	1.12 [0.48; 2.61]	+
Human Coronavirus		10.00, 41	4 (1 = 0.00	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
nnamalay, 2016 [1]	3	15	9	85	2.25 [0.58; 8.82]	-
Annamalay, 2016 [2] Nunes, 2014	1 79	38 517	0 77	237 943	19.00 [0.76; 475.10] 2.03 [1.45; 2.83]	-
/enter, 2011	14	383	9	80	0.30 [0.13; 0.70]	-
Total (95% CI) Heterogeneity: Tau ² = 1.2	97	953	95	1345	1.49 [0.41; 5.39]	-
		19.39, df :	- s (P = 0.00	,oz); i⁻ = 84	.J% [01.3%; 93.8%]	
Human Parainfluenz Innamalay, 2016 [1]	za Virus 3	15	6	85	3.42 [0.82; 14.31]	
nnamalay, 2016 [1]	4	38	6	237	4.65 [1.33; 16.28]	_
Cohen, 2015 [2]	230	5794	635	8365	0.50 [0.43; 0.59]	•
Feikin, 2012	16	3496	13	11458	4.02 [1.96; 8.26]	<u></u>
Лаdhi, 2007 Лајоzi, 2017	18 18	613 338	33 26	951 338	0.85 [0.48; 1.52] 0.68 [0.37; 1.26]	<u>.</u>
Moyes, 2017	3	338 49	26 34	753	1.57 [0.50; 4.90]	—
Moyes, 2017	7	228	1	57	1.28 [0.22; 7.54]	-
/enter, 2011	24	383	5	80 67	0.94 [0.36; 2.44]	_ +
Zash, 2016 T otal (95% CI)	0 323	18 10972	3 762	67 22391	0.50 [0.02; 10.08] 1.30 [0.72; 2.35]	•
Heterogeneity: Tau ² = 0.5	5998; Chi ² =	53.44, df	= 9 (P < 0.00	$(001); I^2 = 83$	3.2% [70.5%; 90.4%]	
Influenza Virus Annamalay, 2016 [1]	0	15	7	85	0.34 [0.02; 6.22]	
Annamalay, 2016 [2]	3	38	13	237	1.64 [0.48; 5.60]	-
Cohen, 2015 [2]	15	230	23	635	1.87 [0.97; 3.63]	_
Cohen, 2015 [3] Feikin, 2012	350 36	4609 3496	185 73	1650 11458	0.65 [0.54; 0.78] 1.63 [1.10; 2.43]	-
Ho, 2017	24	229	5	119	2.48 [0.96; 6.43]	-
Madhi, 2007	22	613	46	951	0.74 [0.44; 1.24]	-
Majozi, 2017	7	338	18	338	0.39 [0.17; 0.93]	-
Moyes, 2013 Moyes, 2017	1 15	49 228	16 2	753 57	1.38 [0.25; 7.54] 1.61 [0.41; 6.33]	
Peterson, 2016	11	119	226	1973	0.82 [0.44; 1.53]	-
Гетріа, 2017	398	5440	680	7895	0.84 [0.74; 0.95]	•
Venter, 2011	10	383	7	80 67	0.28 [0.10; 0.73]	 .
Zash, 2016 Γotal (95% CI)	0 892	18 15805	0 1301	67 26298	3.65 [0.07; 190.16] 0.93 [0.71; 1.21]	•
leterogeneity: Tau ² = 0.1	040; Chi ² =	39.95, df	= 13 (P = 0.0	$(0001); I^2 = 6$	67.5% [43.1%; 81.4%]	
Metapneumovirus Annamalay, 2016 [1]	1	15	6	85	1.27 [0.20; 8.14]	
Annamalay, 2016 [2]	3	38	25	237	0.82 [0.25; 2.65]	-
Cohen, 2015 [2]	3 10	230	17 11	635 11458	0.54 [0.17; 1.73]	
Feikin, 2012 Madhi, 2006	10 45	3496 992	11 154	11458 1686	3.00 [1.30; 6.93] 0.48 [0.34; 0.67]	=
лаdni, 2006 ∕/adhi, 2007	45 29	536	94	851	0.48 [0.34; 0.67]	<u>-</u>
Majozi, 2017	1	338	0	338	3.01 [0.12; 74.12]	
Moyes, 2013	1	49	17	753	1.30 [0.24; 7.07]	-
00115 - 11114 T	-	228	0	57	2.31 [0.12; 43.43]	-
•	4 17	517	an	Q/3		
lunes, 2014	4 17 15	517 383	90 4	943 80	0.33 [0.20; 0.56] 0.72 [0.24; 2.10]	_
Nunes, 2014 /enter, 2011 Zash, 2016	17 15 1	383 18	4 2	80 67	0.33 [0.20; 0.56] 0.72 [0.24; 2.10] 2.25 [0.28; 18.19]	
Nunes, 2014 /enter, 2011 Zash, 2016 Total (95% CI)	17 15 1 130	383 18 6840	4 2 420	80 67 17190	0.33 [0.20; 0.56] 0.72 [0.24; 2.10] 2.25 [0.28; 18.19] 0.74 [0.48; 1.13]	•
Nunes, 2014 /enter, 2011 Zash, 2016 Total (95% CI) Heterogeneity: Tau ² = 0.2	17 15 1 130 2417; Chi ² =	383 18 6840	4 2 420	80 67 17190 0047); I ² = 5	0.33 [0.20; 0.56] 0.72 [0.24; 2.10] 2.25 [0.28; 18.19] 0.74 [0.48; 1.13] 69.2% [22.9%; 78.4%]	•
Nunes, 2014 /enter, 2011 Zash, 2016 Fotal (95% CI) Heterogeneity: Tau ² = 0.2 Respiratory Syncitia Annamalay, 2016 [1]	17 15 1 130 2417; Chi ² = al Virus	383 18 6840 26.95, df :	4 2 420 = 11 (P = 0.0	80 67 17190 0047); I ² = 5	0.33 [0.20; 0.56] 0.72 [0.24; 2.10] 2.25 [0.28; 18.19] 0.74 [0.48; 1.13] 69.2% [22.9%; 78.4%] 0.07 [0.00; 1.26]	
Nunes, 2014 /enter, 2011 Zash, 2016 Fotal (95% CI) Heterogeneity: Tau ² = 0.2 Respiratory Syncitia Annamalay, 2016 [1] Annamalay, 2016 [2]	17 15 1 130 2417; Chi ² =	383 18 6840 26.95, df	4 2 420 = 11 (P = 0.0	80 67 17190 0047); I ² = 5	0.33 [0.20; 0.56] 0.72 [0.24; 2.10] 2.25 [0.28; 18.19] 0.74 [0.48; 1.13] 69.2% [22.9%; 78.4%]	
Nunes, 2014 /enter, 2011 Zash, 2016 Fotal (95% CI) Heterogeneity: Tau ² = 0.2 Respiratory Syncitia Annamalay, 2016 [1] Annamalay, 2016 [2] Cohen, 2015 [2] Feikin, 2012	17 15 1 130 2417; Chi ² = al Virus 0 6 12 17	383 18 6840 26.95, df = 15 38 230 3496	4 2 420 = 11 (P = 0.0 26 25 51 13	80 67 17190 0047); I ² = 5 85 237 635 11458	0.33 [0.20; 0.56] 0.72 [0.24; 2.10] 2.25 [0.28; 18.19] 0.74 [0.48; 1.13] 69.2% [22.9%; 78.4%] 0.07 [0.00; 1.26] 1.67 [0.65; 4.25] 0.65 [0.34; 1.23] 4.26 [2.09; 8.68]	-
Nunes, 2014 //enter, 2011 Zash, 2016 Fotal (95% CI) Heterogeneity: Tau ² = 0.2 Respiratory Syncitia Annamalay, 2016 [1] Annamalay, 2016 [2] Cohen, 2015 [2] Feikin, 2012 Madhi, 2007	17 15 1 130 2417; Chi ² = al Virus 0 6 12 17 31	383 18 6840 26.95, df = 15 38 230 3496 613	4 2 420 = 11 (P = 0.0 26 25 51 13 201	80 67 17190 0047); I ² = 5 85 237 635 11458 951	0.33 [0.20; 0.56] 0.72 [0.24; 2.10] 2.25 [0.28; 18.19] 0.74 [0.48; 1.13] 69.2% [22.9%; 78.4%] 0.07 [0.00; 1.26] 1.67 [0.65; 4.25] 0.65 [0.34; 1.23] 4.26 [2.09; 8.68] 0.20 [0.14; 0.30]	-
Nunes, 2014 //enter, 2011 Zash, 2016 Fotal (95% CI) Heterogeneity: Tau ² = 0.2 Respiratory Syncitia Annamalay, 2016 [1] Annamalay, 2016 [2] Cohen, 2015 [2] Feikin, 2012 Madhi, 2007 Majozi, 2017	17 15 1 130 2417; Chi ² = al Virus 0 6 12 17 31 14	383 18 6840 26.95, df s 15 38 230 3496 613 338	4 2 420 = 11 (P = 0.0 26 25 51 13 201 142	80 67 17190 0047); I ² = 5 85 237 635 11458 951 338	0.33 [0.20; 0.56] 0.72 [0.24; 2.10] 2.25 [0.28; 18.19] 0.74 [0.48; 1.13] 69.2% [22.9%; 78.4%] 0.07 [0.00; 1.26] 1.67 [0.65; 4.25] 0.65 [0.34; 1.23] 4.26 [2.09; 8.68] 0.20 [0.14; 0.30] 0.06 [0.03; 0.11]	
Nunes, 2014 //enter, 2011 Zash, 2016 Fotal (95% CI) Heterogeneity: Tau² = 0.2 Respiratory Syncitia Annamalay, 2016 [1] Annamalay, 2016 [2] Cohen, 2015 [2] Feikin, 2012 Madhi, 2007 Majozi, 2017 Moyes, 2013	17 15 1 130 2417; Chi ² = al Virus 0 6 12 17 31	383 18 6840 26.95, df = 15 38 230 3496 613	4 2 420 = 11 (P = 0.0 26 25 51 13 201	80 67 17190 0047); I ² = 5 85 237 635 11458 951	0.33 [0.20; 0.56] 0.72 [0.24; 2.10] 2.25 [0.28; 18.19] 0.74 [0.48; 1.13] 69.2% [22.9%; 78.4%] 0.07 [0.00; 1.26] 1.67 [0.65; 4.25] 0.65 [0.34; 1.23] 4.26 [2.09; 8.68] 0.20 [0.14; 0.30]	
Nunes, 2014 //enter, 2011 Zash, 2016 Fotal (95% CI) Heterogeneity: Tau² = 0.2 Respiratory Syncitia Annamalay, 2016 [1] Annamalay, 2016 [2] Cohen, 2015 [2] Feikin, 2012 Madhi, 2007 Majozi, 2017 Moyes, 2013 Moyes, 2017 Nyawanda, 2016	17 15 1 130 2417; Chi ² = al Virus 0 6 12 17 31 14 49 228 24	383 18 6840 26.95, df s 15 38 230 3496 613 338 381 5297 176	4 2 420 = 11 (P = 0.0 26 25 51 13 201 142 753 57 240	80 67 17190 0047); I ² = 5 85 237 635 11458 951 338 2586 1708 1968	0.33 [0.20; 0.56] 0.72 [0.24; 2.10] 2.25 [0.28; 18.19] 0.74 [0.48; 1.13] 69.2% [22.9%; 78.4%] 0.07 [0.00; 1.26] 1.67 [0.65; 4.25] 0.65 [0.34; 1.23] 4.26 [2.09; 8.68] 0.20 [0.14; 0.30] 0.06 [0.03; 0.11] 0.36 [0.27; 0.49] 1.29 [0.96; 1.74] 1.15 [0.74; 1.81]	
Nunes, 2014 /enter, 2011 Zash, 2016 Fotal (95% CI) Heterogeneity: Tau² = 0.2 Respiratory Syncitia Annamalay, 2016 [1] Annamalay, 2016 [2] Cohen, 2015 [2] Feikin, 2012 Madhi, 2007 Majozi, 2017 Moyes, 2013 Moyes, 2017 Nyawanda, 2016 /enter, 2011	17 15 1 130 2417; Chi ² = al Virus 0 6 12 17 31 14 49 228 24 79	383 18 6840 26.95, df = 15 38 230 3496 613 338 381 5297 176 383	4 2 420 = 11 (P = 0.0 26 25 51 13 201 142 753 57 240 24	80 67 17190 0047); I ² = 5 85 237 635 11458 951 338 2586 1708 1968 80	0.33 [0.20; 0.56] 0.72 [0.24; 2.10] 2.25 [0.28; 18.19] 0.74 [0.48; 1.13] 59.2% [22.9%; 78.4%] 0.07 [0.00; 1.26] 1.67 [0.65; 4.25] 0.65 [0.34; 1.23] 4.26 [2.09; 8.68] 0.20 [0.14; 0.30] 0.06 [0.03; 0.11] 0.36 [0.27; 0.49] 1.29 [0.96; 1.74] 1.15 [0.74; 1.81] 0.60 [0.35; 1.03]	
Nunes, 2014 /enter, 2011 Zash, 2016 Total (95% CI) Heterogeneity: Tau² = 0.2 Respiratory Syncitia Annamalay, 2016 [1] Annamalay, 2016 [2] Cohen, 2015 [2] Feikin, 2012 Madhi, 2007 Majozi, 2017 Moyes, 2013 Moyes, 2017 Nyawanda, 2016 /enter, 2011 Zash, 2016 Total (95% CI)	17 15 1 130 2417; Chi ² = al Virus 0 6 12 17 31 14 49 228 24 79 1	383 18 6840 26.95, df s 15 38 230 3496 613 338 381 5297 176 383 18 10985	4 2 420 = 11 (P = 0.0 26 25 51 13 201 142 753 57 240 24 2 1534	80 67 17190 0047); I ² = 5 85 237 635 11458 951 338 2586 1708 1968 80 67 20113	0.33 [0.20; 0.56] 0.72 [0.24; 2.10] 2.25 [0.28; 18.19] 0.74 [0.48; 1.13] 9.2% [22.9%; 78.4%] 0.07 [0.00; 1.26] 1.67 [0.65; 4.25] 0.65 [0.34; 1.23] 4.26 [2.09; 8.68] 0.20 [0.14; 0.30] 0.06 [0.03; 0.11] 0.36 [0.27; 0.49] 1.29 [0.96; 1.74] 1.15 [0.74; 1.81] 0.60 [0.35; 1.03] 2.25 [0.28; 18.19] 0.62 [0.31; 1.23]	
Nunes, 2014 /enter, 2011 Zash, 2016 Total (95% CI) Heterogeneity: Tau² = 0.2 Respiratory Syncitia Annamalay, 2016 [1] Annamalay, 2016 [2] Cohen, 2015 [2] Feikin, 2012 Madhi, 2007 Majozi, 2017 Moyes, 2013 Moyes, 2017 Nyawanda, 2016 /enter, 2011 Zash, 2016 Total (95% CI)	17 15 1 130 2417; Chi ² = al Virus 0 6 12 17 31 14 49 228 24 79 1	383 18 6840 26.95, df s 15 38 230 3496 613 338 381 5297 176 383 18 10985	4 2 420 = 11 (P = 0.0 26 25 51 13 201 142 753 57 240 24 2 1534	80 67 17190 0047); I ² = 5 85 237 635 11458 951 338 2586 1708 1968 80 67 20113	0.33 [0.20; 0.56] 0.72 [0.24; 2.10] 2.25 [0.28; 18.19] 0.74 [0.48; 1.13] 9.2% [22.9%; 78.4%] 0.07 [0.00; 1.26] 1.67 [0.65; 4.25] 0.65 [0.34; 1.23] 4.26 [2.09; 8.68] 0.20 [0.14; 0.30] 0.06 [0.03; 0.11] 0.36 [0.27; 0.49] 1.29 [0.96; 1.74] 1.15 [0.74; 1.81] 0.60 [0.35; 1.03] 2.25 [0.28; 18.19] 0.62 [0.31; 1.23]	
Nunes, 2014 //enter, 2011 Zash, 2016 Fotal (95% CI) Heterogeneity: Tau² = 0.2 Respiratory Syncitia Annamalay, 2016 [2] Annamalay, 2016 [2] Cohen, 2015 [2] Feikin, 2012 Madhi, 2007 Majozi, 2017 Moyes, 2013 Moyes, 2017 Nyawanda, 2016 //enter, 2011 Zash, 2016 Fotal (95% CI) Heterogeneity: Tau² = 1.1	17 15 1 130 2417; Chi ² = al Virus 0 6 12 17 31 14 49 228 24 79 1 461 1290; Chi ² =	383 18 6840 26.95, df s 15 38 230 3496 613 338 381 5297 176 383 18 10985	4 2 420 = 11 (P = 0.0 26 25 51 13 201 142 753 57 240 24 2 1534 f = 10 (P < 0.0	80 67 17190 0047); I ² = 5 85 237 635 11458 951 338 2586 1708 1968 80 67 20113	0.33 [0.20; 0.56] 0.72 [0.24; 2.10] 2.25 [0.28; 18.19] 0.74 [0.48; 1.13] 9.2% [22.9%; 78.4%] 0.07 [0.00; 1.26] 1.67 [0.65; 4.25] 0.65 [0.34; 1.23] 4.26 [2.09; 8.68] 0.20 [0.14; 0.30] 0.06 [0.03; 0.11] 0.36 [0.27; 0.49] 1.29 [0.96; 1.74] 1.15 [0.74; 1.81] 0.60 [0.35; 1.03] 2.25 [0.28; 18.19] 0.62 [0.31; 1.23] 94.4% [91.7%; 96.2%]	
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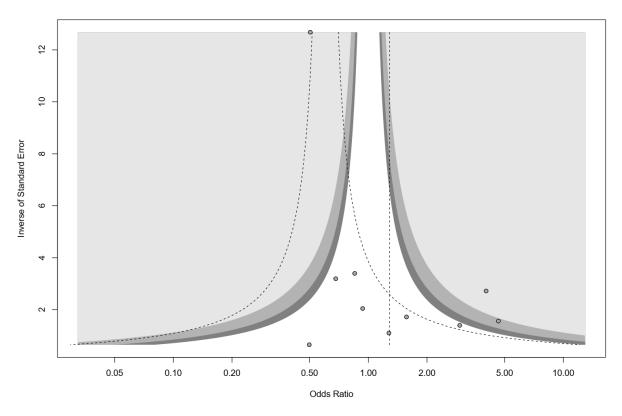
Supplementary Figure 7: Funnel plot for publication for comparison of Human Adenovirus as aetiology of acute respiratory tract infections between HIV-positive and HIV-negative populations in Africa



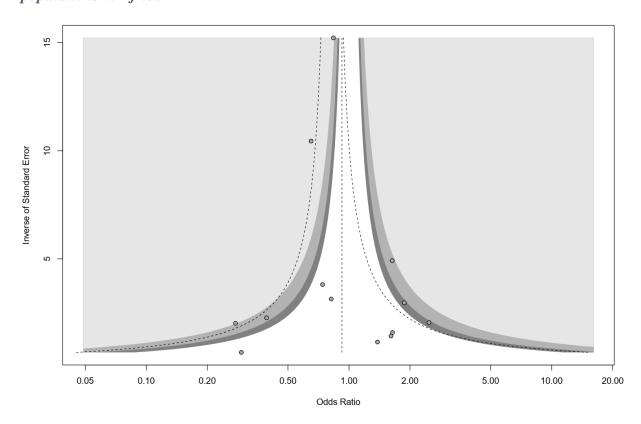
Supplementary Figure 8: Funnel plot for publication for comparison of Respiratory Syncytial Virus as aetiology of acute respiratory tract infections between HIV-positive and HIV-negative populations in Africa



Supplementary Figure 9: Funnel plot for publication for comparison of Human Parainfluenza Virus as aetiology of acute respiratory tract infections between HIV-positive and HIV-negative populations in Africa



Supplementary Figure 10: Funnel plot for publication for comparison of Human Influenza Virus as aetiology of acute respiratory tract infections between HIV-positive and HIV-negative populations in Africa



Supplementary Figure 11: Funnel plot for publication for comparison of Human Metapneumovirus Virus as aetiology of acute respiratory tract infections between HIV-positive and HIV-negative populations in Africa

